Decision Regarding Assessment of the Computer Science and Information Technology Study Programme Group at the Level of Doctoral Studies
Tallinn University of Technology

20/06/2018

The Quality Assessment Council for Higher Education at the Estonian Quality Agency for Higher and Vocational Education decided to approve the report by the Assessment Committee and to conduct the next quality assessment of the Computer Science and Information Technology study programme group at the level of doctoral studies at the Tallinn University of Technology in seven years

On the basis of subsection 10 (4) of the Universities Act and point 40.1 of the 'Quality Assessment of Study Programme Groups at the Level of Doctoral Studies', authorised in points 3.7.3 and 3.7.1 of the Statutes of the Estonian Quality Agency for Higher and Vocational Education (hereinafter referred to as 'EKKA'), the EKKA Quality Assessment Council for Higher Education (hereinafter referred to as 'the Council') affirms the following:

1. On 19.04.2017 Tallinn University of Technology and EKKA agreed upon a time frame to conduct a quality assessment of the study programme group.

2. The Director of EKKA, by her order on 12.02.2018, approved the following composition of the quality assessment committee for the Computer Science and Information Technology and Mathematics and Statistics study programme group at the level of doctoral studies at the Tallinn University of Technology, Tallinn University and University of Tartu (hereinafter referred to as 'the Committee'):

Ernst W. Mayr (chair)	Professor Emeritus, Department of Informatics, TUM, Munich (Germany)
Juha Kalevi Kinnunen	Professor, Head of the Department, Mathematics, Aalto University (Finland)
Dick H.J. Epema	Professor of Computer Science, Delft University of Technology (Holland)
Sasu Tarkoma	Professor, Head of Department, Department of Computer Science, University of Helsinki (Finland)
Tõnu Pekk	*Tuleva Tulundusühistu*, member of the board, head of the

	Task Force on Funding Research and Higher Education 2016–2017 (Estonia)
Josip Maric	Doctoral student, University Of Montpellier (France)

3. Tallinn University of Technology submitted the following doctoral programme for evaluation under the Computer Science and Information Technology study programme group:

Information and Communication Technology

4. Tallinn University of Technology submitted a self-evaluation report to the EKKA Bureau on 12.12.2017, and the assessment coordinator forwarded it to the Committee on 18.01.2018.

5. An assessment visit to Tallinn University of Technology took place on 14.03.2018.

6. The Committee sent its draft assessment report to the EKKA Bureau on 29.04.2018, and EKKA forwarded it to the Tallinn University of Technology for its comments on 7.05.2018 and the University delivered its response on 18.05.2018.

7. The Committee submitted its final assessment report to the EKKA Bureau on 25.05.2018. The assessment report is an integral part of the decision. The report is available on the EKKA website.

8. The Secretary of the Council forwarded the Committee's final assessment report along with the University's self-evaluation report to the Council members on 6.06.2018.

9. The Council with 9 members present discussed these received documents in its session on 21.08.2018 and, based on the assessment report, decided to point out the following strengths, areas for improvement, and recommendations regarding the Computer Science and Information Technology study programme group at the level of doctoral studies at the Tallinn University of Technology.

The Committee pointed out the following observations and recommendations for the Computer Science and Information Technology study programme groups at the Tallinn University of Technology, Tallinn University and University of Tartu, and for the Mathematics and Statistics study programme group at the University of Tartu:

1) The Committee is under the impression that a doctoral degree in IT is not much valued in Estonia, and thus, it is challenging to enrol the best talents to those study programmes. Universities should make more joint efforts to promote the benefits arising from doctoral programmes to the general public, and give concrete examples.
2) It is advisable that universities focus even more on internationalisation by increasing the two-directional mobility of students and teaching staff and benchmarking their performance targets against foreign universities.
3) Although skills-based, as well as theoretical subjects, deserve their place in the study programme, it is advisable to reduce the proportion of subject courses somewhat and redesign teaching and learning to meet individual needs better. Year-long subject courses will only be justified if otherwise promising doctoral students have no prior knowledge necessary to start research work.

4) It is advisable to bear in mind the industry's rapid development, advancing the connections with enterprises and putting more focus on applied research.
5) Advanced subject courses should be offered in such subjects as machine learning and data analysis to ensure scientific developments in IT and data statistics.
6) Keeping in mind that the Universities have adequate supervising capacity, it is advisable to increase the number of doctoral students.
7) In order to promote industrial doctorate programmes, it is also advisable to initiate the creation of a tax exemption model for employers who recruit doctoral students.

Strengths, areas for improvement and recommendations regarding the Information and Communication Technology study programme

Strengths

1) The University's efforts to ensure an adequate income for doctoral students is worthy of recognition, Tallinn University of Technology has a uniform grant equal to the Estonian average income for all doctoral students.
2) It is admirable how determined the University has been in increasing the number of international teaching staff. Visiting professors are regularly involved in teaching; summer and winter schools take place.
3) Doctoral students enjoy a stimulating working environment, including excellent conditions for learning, experimenting and socialising.
4) Doctoral students and teaching staff are satisfied and enthusiastic. Doctoral students feel that their feedback is taken into account. The study programme, in general, is flexible and relevant.
5) Doctoral students belong to research teams, and many of them have two or more supervisors. The studies support the research of the students as well as individual development.
6) Annual evaluation of doctoral students is carried out systematically.
7) Supervisors take part in the work of international research networks and projects.
8) Targeted structural changes intended to ensure the quality of doctoral projects and doctoral students, have reduced dropout rate and improved the overall level of the student body.
9) Doctoral students can apply for competition-based additional funding under their PhD projects.
10) Individual study plan design is flexible. Doctoral students receive administrative support in transferring credit points earned elsewhere.
11) The exact volume of teaching for each doctoral student is defined in their contract.
12) The working environment facilitates international cooperation and mobility of doctoral students.

Areas for improvement and recommendations

1) When defining the volume of supervising for each member of the teaching staff, where the maximum number of supervisees per supervisor is limited, other (teaching and administrative) tasks of the supervisor shall also be considered.
2) The industrial doctorate programme is an excellent mechanism for collaborating with enterprises. It is advisable to consider formalising various aspects of collaboration with the enterprises in the field.

3) The University should pay special attention to further developing mechanisms for receiving feedback from doctoral students, employers and alumni.
4) The quality of supervision varies. Supervisors should share best practices regularly. In evaluating supervisors, feedback from doctoral students should be taken into account in addition to successfully defended theses; supervisors should also receive training to develop their supervising skills.
5) Some of the initiatives taken by the management, such as the concept of the industrial doctorate programme, have not been introduced to the stakeholders of the doctoral programme well enough. Supervisors should receive more support for understanding and implementing the opportunities of the industrial doctorate programme.
6) Efficient measures shall be taken to reduce dropping out. Periods of study are relatively long in international comparison.
7) Feedback from doctoral students and the quality of supervision have to be monitored and analysed continuously.
8) It is recommended to increase the share of female doctoral students.
9) Potential career models shall be created, and doctoral students would have to be informed about these at the early stages of studies.

10. Point 40 of the 'Quality Assessment of Study Programme Groups at the Level of Doctoral Studies' establishes that the Quality Assessment Council shall approve an assessment report within three months after receipt of the report. The Council shall weigh the strengths, areas for improvement, and recommendations outlined in the assessment report, and decide whether to conduct the next quality assessment of that study programme group in seven, five or three years.

11. The Council weighed the strengths, areas for improvement, and recommendations presented in point 9 of this document and found that the study programme, the teaching conducted under these programmes, and development activities regarding teaching and learning conform to the requirements, and

    DECIDED

    to approve the assessment report and to conduct the next quality assessment of the Computer Science and Information Technology study programme group at the level of doctoral studies at the Tallinn University of Technology in seven years.

    The decision was adopted by nine votes in favour and 0 against.

12. The Council proposes that the Tallinn University of Technology submit an action plan to EKKA concerning the areas for improvement and recommendations pointed out in the report no later than 20.06.2019.

13. A person who finds that his or her rights have been violated or his or her freedoms restricted by this decision may file a challenge with the EKKA Quality Assessment Council within 30 days after the person filing the challenge became or should have become aware of the contested finding.

    The Council shall forward the challenge to its Appeals Committee who shall provide an unbiased opinion in writing regarding the validity of the challenge to the Council, within five days after

receipt of the challenge. The Council shall resolve the challenge within ten days of its receipt, taking into account the reasoned opinion of the Appeals Committee. If the challenge needs to be investigated further, the deadline for its review by the Council may be extended by a maximum of thirty days.

A legal challenge to this decision is possible within 30 days after its delivery, by filing an action with the Tallinn courthouse of the Tallinn Administrative Court under the procedure provided for in the Code of Administrative Court Procedure.

Eve Eisenschmidt
Chair of the Council

Hillar Bauman
Secretary of the Council